

# Michela Borghi



**Date of birth:** October 3<sup>rd</sup>, 1996

**Nationality:** Italian

## CONTACT

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**Permanent Address:**

Viale del Lavoro, 3/b  
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**Current Address:**

Institute for Developmental  
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## LANGUAGES

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**Italian** – native language

**English** – C1 – advanced level

**Spanish** – B2 – intermediate level

**French** -B2 – intermediate level

## EDUCATION

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PhD candidate in Functional Neurobiology 2020-present  
Institute for Developmental Biology and Neurobiology  
*Johannes Gutenberg University, Mainz, Germany*

International Master's degree in Neuroscience 2018-2020  
*University of Trieste*  
Overall mark: 110/110 with Honours

Bachelor's degree in Nutritional Biology 2015-2018  
*University of Camerino*  
Overall mark: 110/110 with Honours

High School Diploma in Foreign languages and literatures 2010-2015  
*Liceo Linguistico Celio, Rovigo*  
Overall mark : 99/100

Diplôme du Baccalauréat général littéraire 2015  
*Académie de Nice*  
Overall mark : Avec la mention très bien

Exchange Student 2013-2014  
*Casa Grande High School, Petaluma, CA, USA*

## RESEARCH EXPERIENCE

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**Pre-doctoral Fellowship** October 2019 – June 2020  
*The University of Texas Medical Branch at Galveston, Texas, USA.*  
Supervisor: Prof. Dr. Giulio Tagliatela, PhD

**Responsibilities:**

- Carry out experimental protocols: mouse stereotaxic surgery for icv injections of Tau oligomers (TauO); mouse sacrifice and brain extraction; slicing of mouse brain tissue (criostat); western blot, immunofluorescence staining, image acquisition and analysis aimed at detecting Calcineurin, pphospho-CREB and RCAN1 protein levels in TauO injected mice vs Controls to assess Calcineurin pathway alterations in the presence of TauO that might explain at the molecular level the impairment of synaptic potentiation observed following TauO treatment.
- Perform data analysis (image analyses using Fiji-ImageJ software; statistical analyses using Graph Pad Prism 7)
- Prepare panels of images for poster presentation and future publication (using Adobe Photoshop 2019)
- Write a draft for publication in peer-reviewed journal, titled *TauO oppose long-term potentiation and impair memory through a calcineurin-dependent mechanism.* (Borghi et al., manuscript in preparation for submission)
- Write a thesis on the research performed to be presented on graduation day (October 26<sup>th</sup>, 2020)

## **Research Internship**

April – July 2018

*University of Camerino, Department of Morphological sciences and Public Health, Camerino, Italy.*

Supervisor: Prof. Dr. Daniele Tomassoni, PhD

### Responsibilities:

- Carry out experimental protocols under supervision: slicing of rat brain tissue (microtome, criostat); immunohistochemistry aimed to detect changes in neuroglia activation in hippocampus of Obese Zucker rats (OZR) vs Lean Zucker rats (LZR) at 12,16, 20 weeks of age to correlate cognitive impairments displayed by OZR to possible neuroinflammatory processes.
- Use NCBI database to research literature
- Perform data analysis (morphological analysis with NIS Elements)
- Write a thesis on the research performed, titled *Neuroglia activation related to obesity: morphological study of Zucker rat brain* presented on graduation day (July 13<sup>th</sup>, 2018)

### Current research interests

- Neuroscience
- Molecular mechanisms of synaptic plasticity
- Neuronal communication
- Neurodegenerative diseases
- Microscopy
- Optogenetics
- Electrophysiology

### Computer skills

Microsoft Office Suite, NCBI database, NIS Elements Microscope Imaging, ImageJ, GraphPad Prism, Adobe Photoshop.

## **ADDITIONAL EXPERIENCE**

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### **Poster Presentation**

January 30<sup>th</sup>, 2020

*Texas Alzheimer's Research and Care Consortium Symposium 2020, The University of Texas at Austin, USA.*

Poster title: Calcineurin mediated TauO-driven synaptotoxicity in mice.  
Authors: Borghi M., Fracassi A., Guptarak J., Zhang WR., Krishnan B., Tagliatalata G.

### **Student Body President**

2017-2018

*University of Camerino, Camerino, Italy.*

### Responsibilities:

- Organize extra-curricular activities and tutoring
- Prepare data and information for making regular reports to the School Council meetings

## **CERTIFICATIONS**

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First Aid Course  
*Italian Red Cross*

2015

